

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
Attorney Docket No. TA-00523

In re Application of: **Slade H. Gardner**

Examiner:

Serial No.: **TBA**

Art Unit:

Filed: **Herewith**

For: **Carbon Layup Tape with Fugitive Binder and Method of Use**

PRELIMINARY AMENDMENT

BOX: NO FEE AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir or Madam:

Please amend the subject application as follows:

"EXPRESS MAIL" NO. EI 871043575 US

I hereby certify that this paper or fee is being deposited with the United States Postal Service as "Express Mail Post Office to Addressee" service under 37 C.F.R. § 1.10 on the date indicated below and is addressed to the Hon. Commissioner of Patents and Trademarks, Washington, D.C. 20231.

Date of Deposit:

Jan. 11, 2002 By: *Sarah Gardner*

In the Specification

Please replace paragraph [0033] with the following:

[0033] FIG. 11 shows the VARTM method using tape 39. Layers of tape 39 are laid in the lower portion of mold 13, then vacuum bag 32 is placed over tape 39 and lower portion 21 to form mold cavity 33. Vacuum bag 32 is formed of a material capable of withstanding the high-temperatures needed for complete pyrolyzation of the fugitive binder, for example, a high-temperature polyimide film. Air is evacuated from cavity 33, and bag 32 compacts the layers of tape 39 onto surface 31 of lower portion 21. Hot nitrogen gas is injected through injection ports 23 for pyrolyzing the fugitive binder, as described for the RTM method, the gas exiting then through vent ports 25. Once the binder is pyrolyzed, lower portion 21 is cooled, then a vacuum is pulled within cavity 33, and resin is injected through port 23 to fill cavity 33 and wet tape 39. The resin is cured, and bag 32 is removed prior to removal of the component.

Remarks

In the specification, paragraph [0033] is amended to correct the spelling of polyimide. A marked-up version is attached.

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Version with Markings to Show Changes Made

[0033] FIG. 11 shows the VARTM method using tape 39. Layers of tape 39 are laid in the lower portion of mold 13, then vacuum bag 32 is placed over tape 39 and lower portion 21 to form mold cavity 33. Vacuum bag 32 is formed of a material capable of withstanding the high-temperatures needed for complete pyrolyzation of the fugitive binder, for example, a high-temperature [polyamide] polyimide film. Air is evacuated from cavity 33, and bag 32 compacts the layers of tape 39 onto surface 31 of lower portion 21. Hot nitrogen gas is injected through injection ports 23 for pyrolyzing the fugitive binder, as described for the RTM method, the gas exiting then through vent ports 25. Once the binder is pyrolyzed, lower portion 21 is cooled, then a vacuum is pulled within cavity 33, and resin is injected through port 23 to fill cavity 33 and wet tape 39. The resin is cured, and bag 32 is removed prior to removal of the component.

Please charge any additional required payment of fees for prosecution of the above-identified application to Deposit Account No. 50-0259.

Respectfully submitted,

Date: 1/11/02

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